SAP Enterprise Information Management Overview and Roadmap

Paul Medaille
March, 2016
# SAP Analytics – Overview Webinars

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### SAP Predictive Analytics

**An automated process, a technological breakthrough to produce predictive results in operational IT environments**

**Why massive modeling is important?**

**Roadmap session**

**What’s new & what’s next**

### Predictive Data Preparation

### SAP Predictive Analytics

**How to become a data scientist in no time**

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Webinars, Recordings & Presentations available @

http://sap.com/k4u
Introduction to EIM
MISSION

“Ensure trusted information is ready at the point of impact to run and innovate the business.”
Companies that can unlock value of information from data are winning
SAP solutions for enterprise information management

Information ready for action

Analytics

Big Data & IoT

Business Processes

Compliance

GOVERN

INTEGRATE

UNDERSTAND & ARCHITECT

ARCHIVE

MANAGE

ASSOCIATE

CLEANSE & MONITOR

Before

After

Data Quality

Data Integration

Data Discovery

Master Data Management

Content Management

Information Lifecycle Management

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EIM for Analytics
SAP PowerDesigner

Capture

Define current environment
Document Existing Systems

Describe the interaction
Model business & technical artifacts with related metadata

Design

Design & plan for future
“As-is” and “to-be” modeling

Streamline implementation
Generate Change

Integrate all aspects
Tie business & technical viewpoints across the enterprise

Communicate

Realize impact of change
Graphical, bi-directional understanding from architecture to execution

Collaborate
Central repository to communicate, report and share
Integrated Information, Business and Technology Architecture

Glossary for Unified Business Language

Fully Integrated Business and Technology Models

Enterprise Modeling

Architecture Impact Analysis

Application & Technology Modeling

Aligned Business & Technical Modeling

Glossary for Unified Business Language
Data Services and Information Steward For Data Warehousing and Business Analytics

- Ensure right data into the DW for trusted BI
- EIM Solutions to integrate and harmonize data quickly, easily and accurately

Data Warehousing and Business Intelligence

Profiling
Application / Data Sources
Extract, Cleanse, De-duplicate
Data Quality Monitoring
DW / DM / HANA
BI Platform
SAP Data Services
Data Integration, Data Quality, Data Profiling and Text Analytics

SAP Data Services
One consistent UI

Unified Metadata
One Runtime Architecture & Services
ETL
Data Quality
Profiling
Text Analytics

One Administration Environment
(Scheduling, Security, User Management)

Access and Extract structured and unstructured data, SAP and non-SAP, in batch or real-time

Transform, cleanse, match and consolidate data

Scale from single to multiple servers for all volumes of data

Support wide variety of SAP and non-SAP targets

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### SAP Data Services: Broadens Enterprise Data Access

Long history of providing connectivity to different sources

#### Databases
- HANA
  - tables
  - views
- Oracle
- DB2
- Sybase ASE / IQ
- SQL Server
- Informix
- MySQL
- Teradata
- JDBC/ODBC
- Netezza
- HP Neoview
- MongoDB
- Google Big Query
- HADOOP Hive

#### Applications
- SAP Bus Suite
  - Extractors
  - ABAP
  - BAPI
  - Idoc
  - RFC Direct read
- SAP NW BW
- SAP Rep Server
- SAP LT Rep Srvr
- SuccessFactors
- JD Edwards
- Oracle Apps
- PeopleSoft
- Siebel
- Salesforce.com

#### Files/Transport
- Text (delimited /fixed width)
- EBCDIC
- XML
- Cobol
- Odata
- Excel
- HTTP/HTTPS
- FTP/sFTP/SCP
- JMS
- Web Services
  - WSDL, WADL
  - SOAP, REST, JSON
  - oData
- HADOOP - HDFS
- VCF*
- ESRI Shapefile

#### Unstructured Content
- Extracts context from any text or binary file types (docs, pdfs, ppt…)
- Understands context in 31 languages

#### Mainframe (with Partner)
- ADABAS
- ISAM
- VSAM
- Enscribe
- IMS/DB
- RMS
- Both direct and changed data

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*SAP Data Services Adapter Kit (SDK) simplifies building connectivity to any applications and Big Data sources*

Please refer to [https://service.sap.com/sap/support/pam](https://service.sap.com/sap/support/pam)
Best Native Access to SAP Business Suite Applications

- Over 5,000 Content Extractors certified
- Full understands SAP application model and metadata
- Business content instead of native tables
- No ABAP coding
- Initial & delta loads
- SAP Data Services
- De-facto SAP data integration
- Solution deployed within days instead of months by large CPG and Hi-tech customers

SAP Business Suite (via ABAP, IDocs, BAPI, RFCs)

SAP extractors (via Full + Delta)
2012 Toyota Highlander, 1G1JF27W8GJ178227. Policy #456-788-99. $500 deductible. Insured are William Thomas Snow and Christine W. Snow. On 1/09/13, received via text message "In accident! Need tow truck." and "Corner of Winter & Cross Rd". Dr. Snow slid through a stop on the snowy road and hit the stop sign. Significant damage to front of the car. He was unhappy at tow truck response time. Contact wtsnow@medicalcenter.com or 651.772.1234. Advance Appraisals Inc. to come out at 8:30am Monday to make further assessment.
SAP Information Steward
Profile, Assess, Monitor, and Manage Data Quality Across the Enterprise

- SAP Business Suite
- SAP BW
- SAP HANA
- BI systems
- ETL tools
- Databases
- Delimited Files
- Data Modeling tools

Sources

Profile / Monitor

1. Discover
2. Define
3. Assess
4. Monitor

1. Data profiling, metadata management. Catalog data assets
2. Define business terms, validation rules, cleansing rules and policies
3. Assess and Catalog data quality of data assets
4. Monitor data quality, to resolve discovered issues

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Profiling
Point-and-click data assessment with zero coding

With full drill-down to record level
Validation Rules for Business Users

- One-click rule creation – business user friendly (no coding)
Visualization of Data Quality with Dashboard and Scorecards
Data Lineage / Impact Analysis
Insights into data origins and data impact

Impact Analysis for data impact

Data Lineage for data origins
Typical Complex Data Landscape

Traditional IT Landscapes compartmentalize data and require too many moving parts.

Is Data Accurate? Fresh? Reliable?
Simplified Landscape with SAP HANA

SAP HANA Enterprise Information Management simplifies your data handling

- Simplified landscapes, fewer moving parts
- Data management services built into the platform – consumable by partner and customer applications
- One common modeling environment for provisioning and consuming data
- Open and extensible
  - Supports any shape, size, style of data integration
  - Open framework for new data sources
- Accelerated in-memory performance
Information Management powered by SAP HANA

SAP HANA IM: Simplified landscape, lower TCO, in-memory speed, common metadata repository, integrated modeling environment, simple UI, for cloud or on premise.

SAP Agile Data Preparation: Self-service data preparation with a consumer-grade UX, IT oversight, and full data stewardship.

SAP HANA smart data quality: Address information management requirements (cleanse, match, best record, metadata and semantics, enrichment, etc.) with in-built HANA services; put the power to manage data within the platform and made accessible to the application.

SAP HANA smart data integration: Supports real-time replication, physical bulk/batch data movement, and federation in a unified framework. Support for both on-premise and cloud sources, with built-in adapters for common sources and an open and easily extensible SDK for ecosystem to offer custom adapters.
Data Preparation is Challenging and Time-Consuming

Today:

Data Preparation

Analysis

Publish /Share

Business analysts and data scientists spend most of their time on data preparation activities:

- Discovery
- Data Profiling
- Annotating
- Transformation
- Modeling
- Curation
- De-duplication
- Cleansing
- Enrichment

This has created the need for end-user oriented tools that can shorten the overall time for data preparation and improve the productivity of data scientists and business analysts.

With Self-service Data Preparation

Adapted from "Self-Service Data Preparation: The Next Big Market Disruption," Rita Sallam, Gartner, March 2015
SAP Agile Data Preparation

*Powered by Smart Data Integration/Smart Data Quality*

**Agile Data Preparation:**

Consumer grade application that allows users to import, profile, merge, cleanse, de-duplicate and enrich any type of data to prepare for analysis in BI tools (Lumira, Tableau, Qlik, etc.). Gartner estimates that data analysts spend up to 80% of their time on data preparation.

Available on premise, and (soon) in the cloud; enables groups from teams to enterprises to take control of their data assets without IT bottleneck.

See a video demo at:

*5 minute demo of SAP Agile Data Preparation*

Available on premise and in the cloud!
Harvest Content Generated by Business Users - Promote to Enterprise Integration and Governance

Is Time to Insight More Important Than Data Quality?

- No: Traditional Data Integration and Governance
- Yes: Ad Hoc or Recurring Analysis?
  - Ad Hoc: Self-Service Data Preparation
  - Recurring: Multiple and Frequently Changing Sources?
    - No: Promote Self-Service Model to Enterprise Integration
    - Yes: Self-Service Data Preparation with Governance Rules

Metadata, Data Lineage, Auditability are key.

Adapted from “Self-Service Data Preparation: The Next Big Market Disruption,” Rita Sallam, Gartner, March 2015

= ADP Capability/Use case
EIM Roadmap
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SAP EIM roadmap themes
Dynamic governance, simplify, self-service and streamline EIM

**Simple**
Easy User Experience
Compact Technology Stack
Complete Integration

**Self-Service**
Empower Users
Business Ownership
Personalized Reports

**Dynamic Governance**
Configurable – Adaptable
Policy Management
LOB-centric

**SMART**
Agile | Quick | Sharp | Effective
Simplify

• Expanded use of Fiori UI technology allowing for more flexible and mobile enabled consumption
• Expanded and automated hierarchy management capabilities
• Tight integration across all EIM capabilities – e.g. ETL; DQ; consolidation and governance; publishing; archiving
• On premise and cloud integration and support across your landscape
Self-service

- Enable self-service data preparation for the business
- Enable data stewards to collaborate, assess, define, monitor, remediate and improve DQ
- Expanded SAP Smart Business analytical capabilities
- Flexibility to drill in and filter on Information Steward scorecards
- DQ dashboards based on SAP HANA rules framework – easier rules management
Dynamic governance

• Governance and consolidation capabilities integrated on one SAP Master Data Governance platform

• Project to enterprise and enterprise to project policy management
  – Information policy management
  – Business user driven configuration of master data consolidation

• Expanded industry content and scenario enablement, e.g. Enterprise Asset Management
SAP EIM Roadmap

Existing EIM solutions
- SAP intends to continue offering existing EIM solutions to protect your investment
- SAP intends to continue enhancing existing EIM solutions to meet market needs

SAP HANA EIM solutions
- SAP provides a modern, in-memory platform for information management capabilities
- SAP intends to continue to enhance and add new capabilities driven by customer needs
- SAP intends to offer new applications (e.g. SAP Agile Data Preparation) for the cloud and on-premise based on the HANA EIM capabilities
EIM roadmap summary

**Innovation without disruption**
- SAP will bring you to the future at your pace for both HANA and Cloud
- Existing products enhanced alongside new platform development

**Better value to the business**
- Simplicity and tight integration with industry and application offerings
- Built on our deep understanding of business processes

**Comprehensive EIM Solutions for on premise and Cloud**
- Data in any style, shape, and delivery mode
- Information governance end-to-end
Thank You!

Contact information:

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Appendix: Product Roadmaps

For complete product roadmaps please see https://service.sap.com/roadmaps
**SAP PowerDesigner**

### Today

- **PowerDesigner**
  - **Web Editors**
    - BPMN refinement
    - Process Map language
  - **Collaboration & Governance**
    - Multi-language Portal UI (EN, FR, DE, SP, RU, CH)
    - Portal custom attributes
    - Portal reporting
    - Portal single sign-on support
    - Portal model comparison (simple)
  - **SAP Modeling Tool of Choice**
    - HANA SP08 support
    - Portal administration features
    - SAP Data Services integration

### Planned Innovations

- **PowerDesigner**
  - **Web Editors**
    - Requirements model
    - Enterprise Architecture model
  - **Collaboration & Governance**
    - Portal enhanced search
    - Portal impact & lineage analysis
    - Portal multi-language content support
    - Portal customizable report
    - Portal model check-in management
  - **SAP Modeling Tool of Choice**
    - Content collaboration with industry solutions
    - SAP HANA updates and calculation view support
    - SAP Solution Manager 7.1 improvements

### Future Direction

- **Web Editors**
  - Glossary
  - Continued improvements of the Portal UI
- **Big Data**
  - Support for unstructured data
- **Strategy & Planning**
  - Portal dashboard improvements
  - Project lifecycle management collaboration
  - Governance, risk & compliance collaboration
  - Additional EA notation support
- **Collaboration & Governance**
  - Portal model comparison improvements
  - Portal publishing
  - Notifications & subscriptions
- **SAP modeling tool of choice**
  - Content collaboration with industry solutions
  - SAP Solution Manager 7.2 support
  - SAP HANA Cloud Platform support
# SAP Data Services

## Today

### Simple
- Improve Substitution Parameters management
- Add preview and select capability for importing objects

### Big Data
- Support Hadoop on Windows platform
- Enhance existing connectivity (source/target) – bi-directional support for Google BigQuery and MongoDB
- Data Access and Authentication – Kerberos, LDAP, SSL
- Extended spatial data loading for MS SQL

### Enterprise Support
- Runtime statistics integration with SAP Solution Manager
- Native integration with SAP NetWeaver CTS+
- Data Quality Statistics

## Planned Innovations

### Simple
- Landscape Management
- Replication wizard in Data Services Designer

### Big Data
- Expand on premise connectivity: HP Vertica
- Expand cloud-based connectivity: AWS S3, Redshift; Google Cloud Storage; Microsoft Azure (Blob Storage, SQL Server – PaaS, IaaS)
- Advancing Enterprise Hadoop support with Apache Spark, YARN, Ranger, and Camel integration
- Support Outlook PST container file as Source

### Enterprise Support
- Enhancements in Text Data Processing engine
- Output linguistics Stem and POS tags
- Data Quality global expansion in Asia Pacific
- As-you-type suggestion for address search

## Future Direction

### Simple
- Display graphical execution plan
- Self-Guiding user interfaces
- Intelligent Smart Module

### Big Data
- Expand connectivity driven by market
- Data Model advisor for SAP HANA database
- Performance optimization

### Enterprise Support
- Self diagnostics and health monitoring utility
- Data Services ‘datastore’ as a service
SAP Information Steward

**Today**

- **Discover**
  - Support virtual view on union operation
  - Enhance metadata collection for SAP ASE and SAP IQ
  - Metapedia OnDemand category loading
  - New SAP Business Suite metadata integrator
  - SAP PowerDesigner integration

- **Define**
  - Information policy management
  - Enhancement of custom attributes
  - Improved validation rule definition and approval
  - New data quality advisor

- **Monitor & improve**
  - Improved email notification of failures
  - Enhance analytics for data quality
  - Improved match review user experience
  - Six sigma calculation for rule score
  - DQ business value analysis

- **Platform**
  - Integrator level security for metadata management
  - Support for external scheduler

**Planned Innovations**

- **Discover**
  - Enhance Hadoop profiling and metadata integrator
  - Enhance SAP Business Suite metadata integrator
  - Support collection of SAP HANA’s SDI and SDQ objects including transformation, source and targets
  - Metapedia desktop widget

- **Define**
  - Simplified rule editing
  - Metapedia layout customization
  - Grouping custom attributes

- **Monitor & improve**
  - Calculate information policy scores
  - Information policy management compliance dashboard
  - Enhanced email notification to monitor score changes on scorecard level
  - Export failed data for scorecard
  - Subscription based change notification
  - Enhance validation rules usage reporting

- **Platform**
  - Enhance metapedia lifecycle management
  - Clean up / maintain failed data tables

**Future Direction**

- Simple, smart and collaborative user experience
- Complete metadata management – from definition to operational metadata
- Continued information policy management build out
- Big data support for profiling and metadata management
- Anonymize and mask sensitive information (e.g. PII) while preserving data relationships and relevant when viewing data
SAP SDI & SDQ

Today

**SAP HANA smart data integration**
- Workload Management Integration
- New Adapters
- Just-In-Time data preview
- New Data Sources
- Hierarchical Transform
- Change Data Capture
- Virtual Table Parameters
- Auto Arrange
- Enhanced Monitoring and Operations
- New Adapter Capabilities

**SAP HANA smart data quality**
- Enhanced Match Transform
- Enhanced Geocode Transform

**Enterprise Semantic Services (ESS)**
- Scheduling of publication and data profiling jobs
- Monitoring of active requests
- Publish remote source metadata

Planned Innovations

**SAP HANA smart data integration**
- SAP Business Suite and SAP S/4HANA integration
- Disaster Recovery
- Transportable EIM repository content
- Data Masking Transform
- Hierarchy Flattening Transform
- Workflow
- REST API
- HDFS as a source & target

**SAP HANA smart data quality**
- New transform for SAP HANA rules framework (HRF) integration
- Best Record Transform

**Enterprise Semantic Services (ESS)**
- REST API to enrich Entity Grid with new properties
- Content type identification of new business types
- Support new types of remote sources with user level security

Future Direction

**SAP HANA smart data integration**
- Additional sources, transforms & targets
- Support for spatial data as a source
- Enhanced operational capabilities
- Enhanced usability
- Support for PGP, SFTP & SSO
- SAP HANA smart data streaming integration
- Apache Spark integration

**SAP HANA smart data quality**
- Custom cleansing rules
- Data enrichment
- Additional domains for cleansing
- REST API for on-premise deployments

**Enterprise Semantic Services (ESS)**
- Crawl, store and manage lineage and semantic relationships between datasets
- Suggest how to complement a user-given dataset with other related datasets
- ESS as a Service in the SAP HANA Cloud Platform
# SAP Agile Data *

## Today

- Interactively discover, search, manipulate, profile, cleanse and share datasets
- Monitoring capabilities for data lineage
- Job scheduling of projects
- Operationalization by IT (exchange to Web IDE)

## Planned Innovations

- Stewardship capabilities (rules management, DQ scorecards)
- Distribution of the validated data
- Filter management, Aggregations
- Metadata Management, Data Protection Support
- Data Enrichment, Best records
- Workflow Support
- Excel amenities like multicolumn sorting, formatting, pivoting…

## Future Direction

- Additional domains for cleansing
- Additional stewardship capabilities (approval workflows, DQ reporting)
- Hadoop/Spark support